



PAGs MANUAL UPDATE

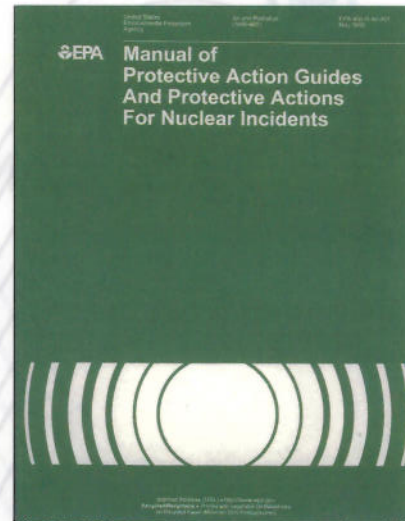
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1992 EPA PAGs Manual

- Still useful!
- Focused on nuclear power plant incidents
- A 1992 symposium expanded scope to other rad incidents



What is a Protective Action Guide?

- A **value** against which to compare the **projected dose** to a defined individual from a release of radioactive material at which a specific protective action to reduce or avoid that dose is warranted. **Projected dose** is dose that can be averted by protective action.
- Guidance for public officials.
- Protective Action Guides are called 'PAGs'



Incident Response Phases

- Early Phase: The first hours to days until the release has stopped, when protective actions decisions must be made with little to no information
- Intermediate Phase: The weeks to months when more information is available, protective actions are more restrictive, and cleanup planning begins
- Late Phase: No longer an emergency response; activities shift to long term recovery and cleanup



Early Phase

- Evacuation/Shelter 1-5 rem (10-50 mSv)
- KI 5 rem (50 mSv) child thyroid dose
- Worker 5, 10, 25+ rem (50, 100, 250+ mSv)



Intermediate Phase

- Relocate population
 - ≥ 2 rem (20 mSv) first year (projected dose)
 - 0.5 rem (5 mSv) any subsequent year
- Apply dose reduction techniques
 - < 2 rem (20 mSv)
- Food (FDA 1998): Most limiting of
 - 0.5 rem (5 mSv) whole body or
 - 5 rem (50 mSv) to most exposed organ or tissue



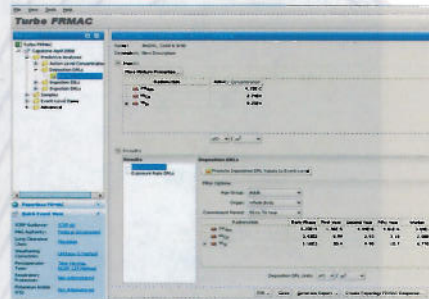
Late Phase

- 'Late Phase' is the cleanup and restoration phase
- Re-entry, cleanup and waste management guidance resulted from PLE 3-10 exercise
- DHS 2008 RDD/IND guidance on a stakeholder process to determine cleanup criteria has been incorporated as well



Use the Best Available Guides & Tools

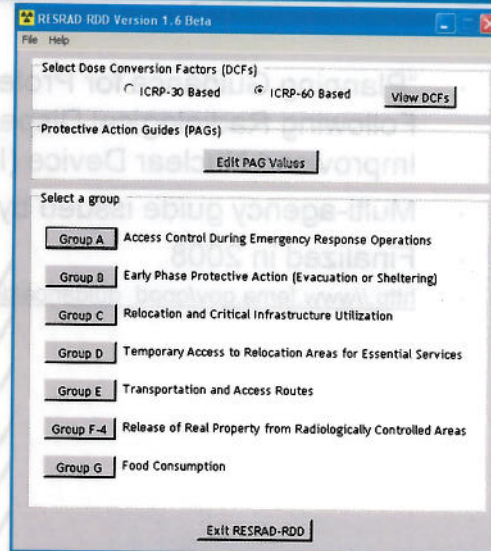
- PAGs are simply guidance!
- Use more current, improved, or more locally appropriate guides when available
- So, what guidance might be used?



Use the Best Available Guides & Tools

- Operational Guidelines
- Numeric guides to implement PAGs in an RDD response
- Software called RESRAD-RDD was developed at Argonne

<http://ogcms.energy.gov/review.html>



What Guidance Should We Use?

- “Planning Guidance for Protection and Recovery Following Radiological Dispersal Device (RDD) and Improvised Nuclear Device (IND) Incidents”
- Multi-agency guide issued by DHS/FEMA
- Finalized in 2008
- http://www.fema.gov/good_guidance/download/10260



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This one validates using the existing EPA PAGs for RDDs, INDs... It will be superseded when the EPA PAG Manual is officially issued for use.

What Guidance Should We Use?

Planning Guidance for Response to a Nuclear Detonation

Second Edition
June 2010

Developed by the National Security Staff
Interagency Policy Coordination Subcommittee
for Preparedness & Response to
Radiological and Nuclear Threats



“Planning Guidance for Response
to a Nuclear Detonation”

Multi-agency guidance published
by the Homeland Security Council

2nd edition published in 2010

includes improved guidance
informed by ongoing research

http://www.epa.gov/rpdweb00/docs/er/planning_guidance_for_response_to_a_nuclear_detonation_%202nd%20edition_final.pdf

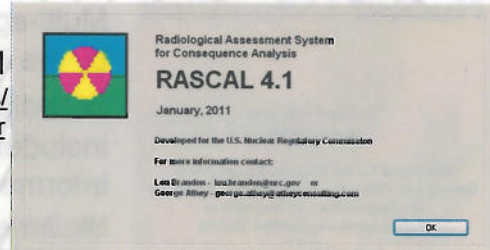


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This one gives specific advice for planners thinking about unique challenges for response in the first days after an urban nuclear detonation...

What Guidance Should We Use?

- Potassium Iodide (KI) guidance
- Issued by the Food and Drug Administration in 2001
<http://www.fda.gov/downloads/Drugs/GuidanceComplianceRegulatoryInformation/Guidances/ucm080542.pdf>
- Frequently Asked Questions about KI
<http://www.fda.gov/Drugs/EmergencyPreparedness/BioterrorismAndDrugPreparedness/ucm072265.htm>



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This KI guidance is more current than what is reprinted in the 1992 PAGs Manual – so many of you already use it.

What Guidance Should We Use?

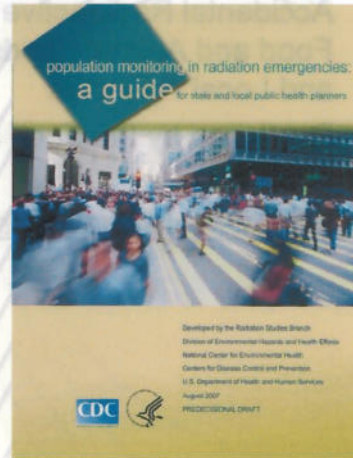
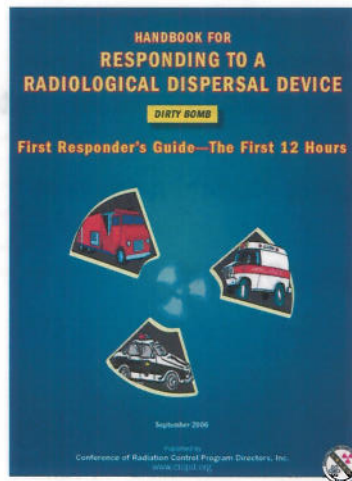
- Accidental Radioactive Contamination of Human Food and Animal Feeds: Recommendations for State and Local Agencies
- Published by the Food and Drug Administration in 1998
- <http://www.fda.gov/cdrh/dmgrp/1071.pdf>



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This Food PAG guidance is more current than what is reprinted in the 1992 PAGs Manual – so many of you already use it.

What Guidance Should We Use?



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Here are some practical implementation guides for operations in a radiation response!

Questions?



